AMERICAN ELECTRIC POWER

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

November 21, 2013

Ms. Becky L. France
Water Permit Writer
Virginia Department of Environmental Quality
3019 Peters Creek Road
Roanoke, Virginia 24019

Re: Appalachian Power Company
Reusens Hydroelectric Plant VPDES Permit Renewal Application
VPDES Permit No. VA0087114

Dear Ms. France:

Please find enclosed, one (1) original copy of a completed VPDES permit renewal application for the above referenced facility and permit. Contained within the application packages are the following:

- EPA General Form 1
- EPA Form 2C for Outfalls 001, 002, 003, 004, 005 and 006
- Figure 1 – USGS Site Location Map
- Figure 2 – VPDES Water Balance Diagram
- Appendix A – Notes
- Appendix B – Outfall Descriptions
- Appendix C – Approved 8-Hour Composite Sampling during Previous Renewal (2008)
- Appendix D – Summary of Discharge Monitoring Reports
- VPDES Permit Application Addendum

As discussed in the enclosed application and previously communicated to DEQ, Reusens Hydroelectric Plant is currently inoperable and has not been operated since March 2011. At the time of this submittal, it is unknown when the Plant will resume operation. If you have any questions or need additional information, please contact Lindsey Forhan of my staff at (614) 716-2275 or at lgforhan@aep.com.

Sincerely,

Alan R. Wood, P.E.
Director, Water & Ecological Resource Services

Enclosure

APPALACHIAN POWER COMPANY

Reusens Hydroelectric Plant
Amherst County, Virginia

VPDES Permit Renewal Application

Virginia Department of Environmental Quality
VPDES Permit No. VA0087114

Prepared by:

American Electric Power Service Corporation
Environmental Services
1 Riverside Plaza
Columbus, Ohio 43215

Prepared for:

Appalachian Power Company
Reusens Hydroelectric Plant
4200 Hydro Street
Lynchburg, Virginia 24503

November 2013

TABLE OF CONTENTS

PUBLIC NOTICE BILLING INFORMATION FORM

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290.C.2:

Newspaper Name: _____

Agent/Department to be billed: Alan R. Wood, P.E.

_____

Owner: c/o Appalachian Power Company

Applicant's Address: 1 Riverside Plaza

Columbus, OH 43215

_____

_____

Agent's Telephone No: (614) 716-1233

Authorizing Agent: _____
Signature

Alan R. Wood, P.E.
Printed Name

Director, Water & Ecological Resource Services
Title

Facility Name: APCo- Reusens Hydroelectric Plant

Permit No. VA0087114

Please return to:

Becky L. France
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, VA 24019
Fax No. (540) 562-6725

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

For Approved. OMB No. 2040-0086. Approval expires 5-31-92

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	VAD988204210		D

1 2 13 14 15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING LIST
- VI. FACILITY LOCATION

VAD988204210
Reusens Hydroelectric Plant
c/o American Electric Power
1 Riverside Plaza, Columbus, Ohio 43215
4200 Hydro Street, Lynchburg, Virginia 24503

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been proved. Refer to the instructions for detailed item descriptions and for the legal authorization under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental from listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.?** (FORM 2A)	☐ 16	☒ 17	☐ 18
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.?** (FORM 2B)	☐ 19	☒ 20	☐ 21
C. Is this facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	☒ 22	☐ 23	☒ 24
D. Is this proposal facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.?** (FORM 2D)	☐ 25	☒ 26	☐ 27
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3)	☐ 28	☒ 29	☐ 30
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	☐ 31	☒ 32	☐ 33
G. Do you or will you inject at this facility any produced water other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	☐ 34	☒ 35	☐ 36
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfer by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	☐ 37	☒ 38	☐ 39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area?** (FORM 5)	☐ 40	☒ 41	☐ 42
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment are?** (FORM 5)	☐ 43	☒ 44	☐ 45

III. NAME OF FACILITY

C 1 | SKIP | ***Reusens Hydroelectric Plant***

15 | 16-29 | 30 ... 69

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*		
C 2 ***Wood, Alan R. - Director, Water & Ecological Resource Services*** (15 16 ... 45)	***614*** (46 48)	***716*** (49 51)	***1233*** (52 55)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3 ***1 Riverside Plaza*** (15 16 ... 45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 ***Columbus*** (15 16 ... 40)	***OH*** (41 42)	***43215*** (47 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5 ***4200 Hydro Street*** (15 16 ... 45)

B. COUNTY NAME

Amherst (46 ... 70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE
C 6 ***Lynchburg*** (15 16 ... 40)	***VA*** (41 42)	***24503*** (47 51)	(52 54)

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST		B. SECOND	
4911	(specify) Electric Services	N/A	(specify) N/A
C. THIRD		**D. FOURTH**	
N/A	(specify) N/A	N/A	(specify) N/A

VIII. OPERATOR INFORMATION

A. NAME: Appalachian Power Company

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other," specify.): P (specify)

F = FEDERAL; M = PUBLIC (other than federal or state); S = STATE; O = OTHER (specify); P = PRIVATE

D. PHONE (area code & no.): 614 716 1233

E. STREET OR PO BOX: 1 Riverside Plaza

F. CITY OR TOWN	G. STATE	H. ZIP CODE
Columbus	OH	43215

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	VA0087114	D. PSD (Air Emissions from Proposed Sources)	N/A
B. UIC (Underground Injection of Fluids)	N/A	E. OTHER (specify)	(Specify)
C. RCRA (Hazardous Wastes)	VAD988204210	E. OTHER (specify)	(Specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

The Reusens Hydroelectric Plant consists of five hydroelectric generating units with a total generating capacity of 12.5 megawatts.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
John M. McManus Vice President, Environmental Services	John M. McManus	11/21/18

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD988204210

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITITUDE			D. RECEIVING WATER (name)		
	1. DEG	2. MIN	3. SEC	1. DEG	2. MIN	3. SEC			
001	37	27	50	79	11	08	James River		
002	37	27	50	79	11	08	James River		
003	37	27	50	79	11	08	James River		
004	37	27	50	79	11	08	James River		
005	37	27	50	79	11	08	James River		

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. See Figure 2.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL (list)	2. OPERATION(S) CONTRIBUTING FLOW			3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (INCLUDE UNITS)		a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Unit 1 Intermediate Guide			Discharge to surface waters	4-A	
	Bearing	0.025	MGD			
	Max. Flow	0.025	MGD			
002	Unit 2 Intermediate Guide			Discharge to surface waters	4-A	
	Bearing	0.025	MGD			
	Max. Flow	0.025	MGD			
003	Unit 3 Intermediate Guide			Discharge to surface waters	4-A	
	Bearing	0.025	MGD			
	Max. Flow	0.025	MGD			
004	Unit 4 Intermediate Guide			Discharge to surface waters	4-A	
	Bearing	0.0144	MGD			
	Max. Flow	0.0216	MGD			
005	Unit 5 Intermediate Guide			Discharge to surface waters	4-A	
	Bearing	0.0144	MGD			
	Max. Flow	0.0216	MGD			

OFFICIAL USE ONLY (effluent guidelines sub-categories)

Please print or type in the unshaded areas only

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD988204210

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITITUDE			D. RECEIVING WATER (name)		
	1. DEG	2. MIN	3. SEC	1. DEG	2. MIN	3. SEC			
006	37	27	50	79	11	08	James River		

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. See Figure 2.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL (list)	2. OPERATION(S) CONTRIBUTING FLOW			3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (INCLUDE UNITS)		a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
006	Sump Overflow	0.036		Discharge to surface waters	4-A	
	Sources:			See Appendix 3, Note 1		
	Units 1,2,3 generator					
	coolers/thrust bearings	0.0432	MGD			
	#1 air compressor	0.046	MGD			
	Units 1,2,3 intermediate					
	bearings	0.075	MGD			
	Total Average Flow	0.030	MGD			
	Max. Flow	0.154	MGD			

OFFICIAL USE ONLY (effluent guidelines sub-categories)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

Yes *(complete the following table)* X **No** *(go to Section III)*

1. OUTFALL NUMBER (list) N/A	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY a. DAYS PER WEEK (specify average)	3. FREQUENCY b. MONTHS PER YEAR (specify average)	4. FLOW a. FLOW RATE (in mgd)	4. FLOW b. TOTAL VOLUME (specify with units)	4. FLOW c. DURATION (in days)

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

Yes *(complete Item III-B)* X **No** *(go to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

Yes *(complete Item III-C)* **No** *(go to Section IV)*

C. If you answered "yes" to Item III_B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	1. AVERAGE DAILY PRODUCTION b. UNITS OF MEASURE	1. AVERAGE DAILY PRODUCTION c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	2. AFFECTED OUTFALLS (list outfall numbers)
N/A			

IV. Improvements

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to , permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

Yes *(complete the following table)* X **No** *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PRODUCT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED
N/A					

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED**

CONTINUED FROM PAGE 2

EPA I. D. NUMBER *(copy from Item 1 of Form1)*
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding -- Complete one set of tables for each outfall -- Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
N/A	N/A	N/A	N/A

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product c byproduct?

Yes *(list all such pollutants below)* X **No** *(go to Item VI-B)*

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

Yes *(identify the test(s) and describe their purpose below)* X No (go to Section VIII)

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm? Please reference Appendix A, Note 1.

X **YES** *(list the name, address, and telephone number of, and plooutants analytized by, each such laboratory or firm below)* **NO** *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code & no.)*	D. POLLUTANTS ANALYZED *(list)*
Water Chemistry, Inc.	3404 Aerial Way Drive, SW Roanoke, Virginia 24018	(540) 343-3618	BOD_5 COD TOC TSS Ammonia Oil & Grease pH Temperature Total Residual Chlorine Fecal Coliform

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering this information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant pealties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
John M. McManus Vice President, Environmental Services	(614) 716-1268
C. SIGNATURE John M McManus	**D. DATE SIGNED** 11/21/12

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART A

1. POLLUTANT	2. EFFLUENT								3. UNITS (specify if blank)		4. INTAKE (optional)		
		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		b. No. of Analyses
		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. BOD		<5	<0.473					Est.*	mg/l	kg/d	<5		1
b. COD		14	1.32					Est.*	mg/l	kg/d	12		1
c. TOC		4.3	0.407					Est.*	mg/l	kg/d	4.1		1
d. TSS		1	0.0946					Est.*	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.0189					Est.*	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.025	VALUE:		VALUE:	0.025	Est.**	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	26.0	VALUE:		VALUE:	17.6	Est.*	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:	30.7	VALUE:		VALUE:	24.1	Est.*	° C		VALUE:		
i. pH		Minimum 6.88	Maximum 8.45	Minimum	Maximum			Est.*	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. Bromide			X												
b. Chlorine, Tot. Residual			X	0.16	0.0151					4	mg/l	kg/d	0.15		4
c. Color			X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform			X	VALUE:	291	VALUE:		VALUE:		1	#/100 mL		VALUE:	548	1
e. Fluoride			X												
f. Nitrate/Nitrite			X												

*See Appendix A Note 2

**See Appendix A Note 3

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X' a. Believed Present	2. Mark 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	b. MAXIMUM 30 DAY VALUE (2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	c. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses	4. UNITS (specify if blank) a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	5. INTAKE a. LONG TERM AVRG. VALUE (2) Mass	5. INTAKE d. No. of Analyses
g. TON		X												
h. O&G		X	<5.0	<0.473					Est.*	mg/l	kg/d	<5.0		1
i. Phosphorus		X												
j. Radioactivity														
(1) Total Alpha		X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta		X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium		X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226		X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate		X												
l. Sulfide		X												
m. Sulfite		X												
n. Surfactants		X												
o. Aluminum		X												
p. Barium		X												
q. Boron		X												
r. Cobalt		X												
s. Iron		X												
t. Magnesium		X												
u. Molybdenum		X												
v. Manganese		X												
w. Tin		X												
x. Titanium		X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony			X												
2M. Arsenic			X												
3M. Beryllium			X												
4M. Cadmium			X												
5M. Chromium			X												
6M. Copper			X												
7M. Lead			X												
8M. Mercury			X												
9M. Nickel			X												
10M. Selenium			X												
11M. Silver			X												
12M. Thallium			X												
13M. Zinc			X												
14M. Cyanide			X												
15M. Phenols			X												
DIOXIN															
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:											

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS															
1V. Acrolein			X												
2V. Acrylonitrile			X												
3V. Benzene			X												
4V. Bis (Chloromethyl) Ether			X												
5V. Bromoform			X												
6V. Carbon Tetrachloride			X												
7V. Chlorobenzene			X												
8V. Chlorodibromomethane			X												
9V. Chloroethane			X												
10V. 2-Chloroethylvinyl Ether			X												
11V. Chloroform			X												
12V. Dichlorobromomethane			X												
13V. Dichlorodifluoromethane			X												
14V. 1,1-Dichloroethane			X												
15V. 1,2-Dichloroethane			X												
16V. 1,1-Dichloroethylene			X												
17V. 1,2-Dichloropropane			X												
18V. 1,3-Dichloropropylene			X												
19V. Ethylbenzene			X												
20V. Methyl Bromide			X												
21V. Methyl Chloride			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride			X												
23V. 1,1,2,2-Tetrachloroethane			X												
24V. Tetrachloroethylene			X												
25V. Toluene			X												
26V. 1,2-Trans Dichloroethylene			X												
27V. 1,1,1-trichloroethane			X												
28V. 1,1,2-trichloroethane			X												
29V. Trichloroethylene			X												
30V. Trichlorofluoromethane			X												
31V. Vinyl Chloride			X												
GC/MS FRACTION -- ACID COMPOUNDS															
1A. 2-Chlorophenol			X												
2A. 2,4-Dichlorophenol			X												
3A. 2,4-Dimethylphenol			X												
4A. 4,6-Dinitro-O-Cresol			X												
5A. 2,4-Dinitrophenol			X												
6A. 2-Nitrophenol			X												
7A. 4-Nitrophenol			X												
8A. P-Chloro-M-Cresol			X												
9A. Pentachlorophenol			X												
10A. Phenol			X												
11A. 2,4,6-Trichlorophenol			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene			X												
2B. Acenaphtylene			X												
3B. Anthracene			X												
4B. Benzidine			X												
5B. Benzo(a)Anthracene			X												
6B. Benzo(a)Pyrene			X												
7B. 3,4-Benzofluoranthene			X												
8B. Benzo(ghi)perylene			X												
9B. Benzo(k)fluoranthene			X												
10B. Bis(2-chloroethoxy)methane			X												
11B. Bis(2-chloroethyl)ether			X												
12B. Bis(2-chloroisopropyl)ether			X												
13B. Bis(2-ethylhexyl)phthalate			X												
14B. 4-bromophenyl Phenyl Ether			X												
15B. Butyl Benzyl Phthalate			X												
16B. 2-Chloronaphthalene			X												
17B. 4-chlorophenyl Phenyl Ether			X												
18B. Chrysene			X												
19B. Dibenzo(a,h)anthracene			X												
20B. 1,2-dichlorobenzene			X												
21B. 1,3-dichlorobenzene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
					a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1,4-dichlorobenzene			X													
23B. 3,3-dichlorobenzidine			X													
24B. diethylphthalate			X													
25B. Dimethylphthalate			X													
26B. di-N-Butylphthalate			X													
27B. 2,4-Dinitrotoluene			X													
28B. 2,6-dinitrotoluene			X													
29B. di-N-Octyl Phthalate			X													
30B. 1,2-Diphenylhydrazine			X													
31B. Fluoranthene			X													
32B. Fluorene			X													
33B. Hexachlorobenzene			X													
34B. Hexachlorobutadiene			X													
35B. Hexachlorocyclopentadiene			X													
36B. Hexachloroethane			X													
37B. Indeno(1,2,3-cd)Pyrene			X													
38B. Isophorone			X													
39B. Naphthalene			X													
40B. Nitrobenzene			X													
41B. N-Nitrosodimethylamine			X													
42B. N-Nitrosodi-N-Propylamine			X													

EPA I.D. NUMBER	OUTFALL NO.
VAD988204210	001

V. INTAKE AND EFFLUENT CHARACTERISTICS

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)															
17P. Heptachlor Epoxide			X												
18P. PCB-1242			X												
19P. PCB-1254			X												
20P. PCB-1221			X												
21P. PCB-1232			X												
22P. PCB-1248			X												
23P. PCB-1260			X												
24P. PCB-1016			X												
25P. Toxaphene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO.
002

PART A

1. POLLUTANT	2. EFFLUENT							3. UNITS (specify if blank)		4. INTAKE (optional)		
		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses		a. LONG TERM AVRG. VALUE		b. No. of Analyses
		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. BOD		<5	<0.473					Est.*	mg/l	kg/d	<5		1
b. COD		14	1.32					Est.*	mg/l	kg/d	12		1
c. TOC		4.3	0.407					Est.*	mg/l	kg/d	4.1		1
d. TSS		1	0.0946					Est.*	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.0189					Est.*	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.025	VALUE:		VALUE:	0.025	Est.**	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	26.0	VALUE:		VALUE:	17.6	Est.*	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:	30.7	VALUE:		VALUE:	24.1	Est.*	° C		VALUE:		
i. pH		Minimum 6.88	Maximum 8.45	Minimum	Maximum			Est.*	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT						d. No. of Analyses	4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE					a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. Bromide			X												
b. Chlorine, Tot. Residual			X	0.16	0.0151					4	mg/l	kg/d	0.15		4
c. Color			X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform			X	VALUE:	291	VALUE:		VALUE:		1	#/100 mL		VALUE:	548	1
e. Fluoride			X												
f. Nitrate/Nitrite			X												

*See Appendix A Note 2
**See Appendix A Note 3

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
g. TON			X												
h. O&G			X	<5.0	<0.473					Est.*	mg/l	kg/d	<5.0		1
i. Phosphorus			X												
j. Radioactivity															
(1) Total Alpha			X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta			X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium			X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226			X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate			X												
l. Sulfide			X												
m. Sulfite			X												
n. Surfactants			X												
o. Aluminum			X												
p. Barium			X												
q. Boron			X												
r. Cobalt			X												
s. Iron			X												
t. Magnesium			X												
u. Molybdenum			X												
v. Manganese			X												
w. Tin			X												
x. Titanium			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony			X												
2M. Arsenic			X												
3M. Beryllium			X												
4M. Cadmium			X												
5M. Chromium			X												
6M. Copper			X												
7M. Lead			X												
8M. Mercury			X												
9M. Nickel			X												
10M. Selenium			X												
11M. Silver			X												
12M. Thallium			X												
13M. Zinc			X												
14M. Cyanide			X												
15M. Phenols			X												
DIOXIN															
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:											

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
					a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS																
1V. Acrolein			X													
2V. Acrylonitrile			X													
3V. Benzene			X													
4V. Bis (Chloromethyl) Ether			X													
5V. Bromoform			X													
6V. Carbon Tetrachloride			X													
7V. Chlorobenzene			X													
8V. Chlorodibromomethane			X													
9V. Chloroethane			X													
10V. 2-Chloroethylvinyl Ether			X													
11V. Chloroform			X													
12V. Dichlorobromomethane			X													
13V. Dichlorodifluoromethane			X													
14V. 1,1-Dichloroethane			X													
15V. 1,2-Dichloroethane			X													
16V. 1,1-Dichloroethylene			X													
17V. 1,2-Dichloropropane			X													
18V. 1,3-Dichloropropylene			X													
19V. Ethylbenzene			X													
20V. Methyl Bromide			X													
21V. Methyl Chloride			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
					a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)																
22V. Methylene Chloride			X													
23V. 1,1,2,2-Tetrachloroethane			X													
24V. Tetrachloroethylene			X													
25V. Toluene			X													
26V. 1,2-Trans Dichloroethylene			X													
27V. 1,1,1-trichloroethane			X													
28V. 1,1,2-trichloroethane			X													
29V. Trichloroethylene			X													
30V. Trichlorofluoromethane			X													
31V. Vinyl Chloride			X													
GC/MS FRACTION -- ACID COMPOUNDS																
1A. 2-Chlorophenol			X													
2A. 2,4-Dichlorophenol			X													
3A. 2,4-Dimethylphenol			X													
4A. 4,6-Dinitro-O-Cresol			X													
5A. 2,4-Dinitrophenol			X													
6A. 2-Nitrophenol			X													
7A. 4-Nitrophenol			X													
8A. P-Chloro-M-Cresol			X													
9A. Pentachlorophenol			X													
10A. Phenol			X													
11A. 2,4,6-Trichlorophenol			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene			X												
2B. Acenaphtylene			X												
3B. Anthracene			X												
4B. Benzidine			X												
5B. Benzo(a)Anthracene			X												
6B. Benzo(a)Pyrene			X												
7B. 3,4-Benzofluoranthene			X												
8B. Benzo(ghi)perylene			X												
9B. Benzo(k)fluoranthene			X												
10B. Bis(2-chloroethoxy)methane			X												
11B. Bis(2-chloroethyl)ether			X												
12B. Bis(2-chloroisopropyl)ether			X												
13B. Bis(2-ethylhexyl)phthalate			X												
14B. 4-bromophenyl Phenyl Ether			X												
15B. Butyl Benzyl Phthalate			X												
16B. 2-Chloronaphthalene			X												
17B. 4-chlorophenyl Phenyl Ether			X												
18B. Chrysene			X												
19B. Dibenzo(a,h)anthracene			X												
20B. 1,2-dichlorobenzene			X												
21B. 1,3-dichlorobenzene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-dichlorobenzene			X												
23B. 3,3-dichlorobenzidine			X												
24B. diethylphthalate			X												
25B. Dimethylphthalate			X												
26B. di-N-Butylphthalate			X												
27B. 2,4-Dinitrotoluene			X												
28B. 2,6-dinitrotoluene			X												
29B. di-N-Octyl Phthalate			X												
30B. 1,2-Diphenylhydrazine			X												
31B. Fluoranthene			X												
32B. Fluorene			X												
33B. Hexachlorobenzene			X												
34B. Hexachlorobutadiene			X												
35B. Hexachlorocyclopentadiene			X												
36B. Hexachloroethane			X												
37B. Indeno(1,2,3-cd)Pyrene			X												
38B. Isophorone			X												
39B. Naphthalene			X												
40B. Nitrobenzene			X												
41B. N-Nitrosodimethylamine			X												
42B. N-Nitrosodi-N-Propylamine			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 002

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)															
17P. Heptachlor Epoxide			X												
18P. PCB-1242			X												
19P. PCB-1254			X												
20P. PCB-1221			X												
21P. PCB-1232			X												
22P. PCB-1248			X												
23P. PCB-1260			X												
24P. PCB-1016			X												
25P. Toxaphene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART A

1. POLLUTANT	2. EFFLUENT								3. UNITS (specify if blank)		4. INTAKE (optional)		
		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		b. No. of Analyses
		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. BOD		<5	<0.473					Est.*	mg/l	kg/d	<5		1
b. COD		14	1.32					Est.*	mg/l	kg/d	12		1
c. TOC		4.3	0.407					Est.*	mg/l	kg/d	4.1		1
d. TSS		1	0.0946					Est.*	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.0189					Est.*	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.025	VALUE:		VALUE:	0.025	Est.**	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	26.0	VALUE:		VALUE:	17.6	Est.*	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:	30.7	VALUE:		VALUE:	24.1	Est.*	° C		VALUE:		
i. pH		Minimum 6.88	Maximum 8.45	Minimum	Maximum			Est.*	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
a. Bromide			X												
b. Chlorine, Tot. Residual			X	0.16	0.0151					4	mg/l	kg/d	0.15		4
c. Color			X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform			X	VALUE:	291	VALUE:		VALUE:		1	#/100 mL		VALUE:	548	1
e. Fluoride			X												
f. Nitrate/Nitrite			X												

*See Appendix A Note 2

**See Appendix A Note 3

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
g. TON			X												
h. O&G			X	<5.0	<0.473					Est.*	mg/l	kg/d	<5.0		1
i. Phosphorus			X												
j. Radioactivity															
(1) Total Alpha			X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta			X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium			X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226			X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate			X												
l. Sulfide			X												
m. Sulfite			X												
n. Surfactants			X												
o. Aluminum			X												
p. Barium			X												
q. Boron			X												
r. Cobalt			X												
s. Iron			X												
t. Magnesium			X												
u. Molybdenum			X												
v. Manganese			X												
w. Tin			X												
x. Titanium			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO.
003

PART C

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS																
1M. Antimony			X													
2M. Arsenic			X													
3M. Beryllium			X													
4M. Cadmium			X													
5M. Chromium			X													
6M. Copper			X													
7M. Lead			X													
8M. Mercury			X													
9M. Nickel			X													
10M. Selenium			X													
11M. Silver			X													
12M. Thallium			X													
13M. Zinc			X													
14M. Cyanide			X													
15M. Phenols			X													
DIOXIN																
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS															
1V. Acrolein			X												
2V. Acrylonitrile			X												
3V. Benzene			X												
4V. Bis (Chloromethyl) Ether			X												
5V. Bromoform			X												
6V. Carbon Tetrachloride			X												
7V. Chlorobenzene			X												
8V. Chlorodibromomethane			X												
9V. Chloroethane			X												
10V. 2-Chloroethylvinyl Ether			X												
11V. Chloroform			X												
12V. Dichlorobromomethane			X												
13V. Dichlorodifluoromethane			X												
14V. 1,1-Dichloroethane			X												
15V. 1,2-Dichloroethane			X												
16V. 1,1-Dichloroethylene			X												
17V. 1,2-Dichloropropane			X												
18V. 1,3-Dichloropropylene			X												
19V. Ethylbenzene			X												
20V. Methyl Bromide			X												
21V. Methyl Chloride			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride			X												
23V. 1,1,2,2-Tetrachloroethane			X												
24V. Tetrachloroethylene			X												
25V. Toluene			X												
26V. 1,2-Trans Dichloroethylene			X												
27V. 1,1,1-trichloroethane			X												
28V. 1,1,2-trichloroethane			X												
29V. Trichloroethylene			X												
30V. Trichlorofluoromethane			X												
31V. Vinyl Chloride			X												
GC/MS FRACTION -- ACID COMPOUNDS															
1A. 2-Chlorophenol			X												
2A. 2,4-Dichlorophenol			X												
3A. 2,4-Dimethylphenol			X												
4A. 4,6-Dinitro-O-Cresol			X												
5A. 2,4-Dinitrophenol			X												
6A. 2-Nitrophenol			X												
7A. 4-Nitrophenol			X												
8A. P-Chloro-M-Cresol			X												
9A. Pentachlorophenol			X												
10A. Phenol			X												
11A. 2,4,6-Trichlorophenol			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS																
1B. Acenaphthene			X													
2B. Acenaphtylene			X													
3B. Anthracene			X													
4B. Benzidine			X													
5B. Benzo(a)Anthracene			X													
6B. Benzo(a)Pyrene			X													
7B. 3,4-Benzofluoranthene			X													
8B. Benzo(ghi)perylene			X													
9B. Benzo(k)fluoranthene			X													
10B. Bis(2-chloroethoxy)methane			X													
11B. Bis(2-chloroethyl)ether			X													
12B. Bis(2-chloroisopropyl)ether			X													
13B. Bis(2-ethylhexyl)phthalate			X													
14B. 4-bromophenyl Phenyl Ether			X													
15B. Butyl Benzyl Phthalate			X													
16B. 2-Chloronaphthalene			X													
17B. 4-chlorophenyl Phenyl Ether			X													
18B. Chrysene			X													
19B. Dibenzo(a,h)anthracene			X													
20B. 1,2-dichlorobenzene			X													
21B. 1,3-dichlorobenzene			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-dichlorobenzene			X												
23B. 3,3-dichlorobenzidine			X												
24B. diethylphthalate			X												
25B. Dimethylphthalate			X												
26B. di-N-Butylphthalate			X												
27B. 2,4-Dinitrotoluene			X												
28B. 2,6-dinitrotoluene			X												
29B. di-N-Octyl Phthalate			X												
30B. 1,2-Diphenylhydrazine			X												
31B. Fluoranthene			X												
32B. Fluorene			X												
33B. Hexachlorobenzene			X												
34B. Hexachlorobutadiene			X												
35B. Hexachlorocyclopentadiene			X												
36B. Hexachloroethane			X												
37B. Indeno(1,2,3-cd)Pyrene			X												
38B. Isophorone			X												
39B. Naphthalene			X												
40B. Nitrobenzene			X												
41B. N-Nitrosodimethylamine			X												
42B. N-Nitrosodi-N-Propylamine			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 003

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)																
17P. Heptachlor Epoxide			X													
18P. PCB-1242			X													
19P. PCB-1254			X													
20P. PCB-1221			X													
21P. PCB-1232			X													
22P. PCB-1248			X													
23P. PCB-1260			X													
24P. PCB-1016			X													
25P. Toxaphene			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART A

1. POLLUTANT		2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	b. MAXIMUM 30 DAY VALUE (2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	c. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses	3. UNITS (specify if blank) a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	a. LONG TERM AVRG. VALUE (2) Mass	b. No. of Analyses
a. BOD		<5	<0.409					Est.*	mg/l	kg/d	<5		1
b. COD		12	0.981					Est.*	mg/l	kg/d	12		1
c. TOC		4.1	0.335					Est.*	mg/l	kg/d	4.1		1
d. TSS		2	0.164					Est.*	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.0164					Est.*	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.0216	VALUE:		VALUE:	0.0216	Est.**	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	18.2	VALUE:		VALUE:		Est.*	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:		VALUE:		VALUE:			° C		VALUE:		
i. pH		Minimum 7.5	Maximum 8.0	Minimum	Maximum			Est.*	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X' a. Believed Present	2. Mark 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	b. MAXIMUM 30 DAY VALUE (2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	c. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses	4. UNITS (specify if blank) a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	a. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses
a. Bromide		X												
b. Chlorine, Tot. Residual		X	0.23	0.0188					Est.*	mg/l	kg/d	0.15		4
c. Color		X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform		X	VALUE:	548	VALUE:		VALUE:		Est.*	#/100 mL		VALUE:	548	1
e. Fluoride		X												
f. Nitrate/Nitrite		X												

*See Appendix A Note 2

**See Appendix A Note 3

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X' a. Believed Present	2. Mark 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	b. MAXIMUM 30 DAY VALUE (2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	c. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses	4. UNITS (specify if blank) a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	5. INTAKE a. LONG TERM AVRG. VALUE (2) Mass	5. INTAKE d. No. of Analyses
g. TON		X												
h. O&G		X	<5.0	<0.409					Est.*	mg/l	kg/d	<5.0		1
i. Phosphorus		X												
j. Radioactivity														
(1) Total Alpha		X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta		X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium		X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226		X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate		X												
l. Sulfide		X												
m. Sulfite		X												
n. Surfactants		X												
o. Aluminum		X												
p. Barium		X												
q. Boron		X												
r. Cobalt		X												
s. Iron		X												
t. Magnesium		X												
u. Molybdenum		X												
v. Manganese		X												
w. Tin		X												
x. Titanium		X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony			X												
2M. Arsenic			X												
3M. Beryllium			X												
4M. Cadmium			X												
5M. Chromium			X												
6M. Copper			X												
7M. Lead			X												
8M. Mercury			X												
9M. Nickel			X												
10M. Selenium			X												
11M. Silver			X												
12M. Thallium			X												
13M. Zinc			X												
14M. Cyanide			X												
15M. Phenols			X												
DIOXIN															
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:											

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS															
1V. Acrolein			X												
2V. Acrylonitrile			X												
3V. Benzene			X												
4V. Bis (Chloromethyl) Ether			X												
5V. Bromoform			X												
6V. Carbon Tetrachloride			X												
7V. Chlorobenzene			X												
8V. Chlorodibromomethane			X												
9V. Chloroethane			X												
10V. 2-Chloroethylvinyl Ether			X												
11V. Chloroform			X												
12V. Dichlorobromomethane			X												
13V. Dichlorodifluoromethane			X												
14V. 1,1-Dichloroethane			X												
15V. 1,2-Dichloroethane			X												
16V. 1,1-Dichloroethylene			X												
17V. 1,2-Dichloropropane			X												
18V. 1,3-Dichloropropylene			X												
19V. Ethylbenzene			X												
20V. Methyl Bromide			X												
21V. Methyl Chloride			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride			X												
23V. 1,1,2,2-Tetrachloroethane			X												
24V. Tetrachloroethylene			X												
25V. Toluene			X												
26V. 1,2-Trans Dichloroethylene			X												
27V. 1,1,1-trichloroethane			X												
28V. 1,1,2-trichloroethane			X												
29V. Trichloroethylene			X												
30V. Trichlorofluoromethane			X												
31V. Vinyl Chloride			X												
GC/MS FRACTION -- ACID COMPOUNDS															
1A. 2-Chlorophenol			X												
2A. 2,4-Dichlorophenol			X												
3A. 2,4-Dimethylphenol			X												
4A. 4,6-Dinitro-O-Cresol			X												
5A. 2,4-Dinitrophenol			X												
6A. 2-Nitrophenol			X												
7A. 4-Nitrophenol			X												
8A. P-Chloro-M-Cresol			X												
9A. Pentachlorophenol			X												
10A. Phenol			X												
11A. 2,4,6-Trichlorophenol			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene			X												
2B. Acenaphtylene			X												
3B. Anthracene			X												
4B. Benzidine			X												
5B. Benzo(a)Anthracene			X												
6B. Benzo(a)Pyrene			X												
7B. 3,4-Benzofluoranthene			X												
8B. Benzo(ghi)perylene			X												
9B. Benzo(k)fluoranthene			X												
10B. Bis(2-chloroethoxy)methane			X												
11B. Bis(2-chloroethyl)ether			X												
12B. Bis(2-chloroisopropyl)ether			X												
13B. Bis(2-ethylhexyl)phthalate			X												
14B. 4-bromophenyl Phenyl Ether			X												
15B. Butyl Benzyl Phthalate			X												
16B. 2-Chloronaphthalene			X												
17B. 4-chlorophenyl Phenyl Ether			X												
18B. Chrysene			X												
19B. Dibenzo(a,h)anthracene			X												
20B. 1,2-dichlorobenzene			X												
21B. 1,3-dichlorobenzene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-dichlorobenzene			X												
23B. 3,3-dichlorobenzidine			X												
24B. diethylphthalate			X												
25B. Dimethylphthalate			X												
26B. di-N-Butylphthalate			X												
27B. 2,4-Dinitrotoluene			X												
28B. 2,6-dinitrotoluene			X												
29B. di-N-Octyl Phthalate			X												
30B. 1,2-Diphenylhydrazine			X												
31B. Fluoranthene			X												
32B. Fluorene			X												
33B. Hexachlorobenzene			X												
34B. Hexachlorobutadiene			X												
35B. Hexachlorocyclopentadiene			X												
36B. Hexachloroethane			X												
37B. Indeno(1,2,3-cd)Pyrene			X												
38B. Isophorone			X												
39B. Naphthalene			X												
40B. Nitrobenzene			X												
41B. N-Nitrosodimethylamine			X												
42B. N-Nitrosodi-N-Propylamine			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 004

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)															
17P. Heptachlor Epoxide			X												
18P. PCB-1242			X												
19P. PCB-1254			X												
20P. PCB-1221			X												
21P. PCB-1232			X												
22P. PCB-1248			X												
23P. PCB-1260			X												
24P. PCB-1016			X												
25P. Toxaphene			X												

EPA I.D. NUMBER
AD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART A

1. POLLUTANT	2. EFFLUENT							3. UNITS (specify if blank)		4. INTAKE (optional)		
		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		b. No. of Analyses
		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. BOD		<5	<0.409					Est.*	mg/l	kg/d	<5		1
b. COD		12	0.981					Est.*	mg/l	kg/d	12		1
c. TOC		4.1	0.335					Est.*	mg/l	kg/d	4.1		1
d. TSS		2	0.164					Est.*	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.0164					Est.*	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.0216	VALUE:		VALUE:	0.0216	Est.**	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	18.2	VALUE:		VALUE:		Est.*	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:		VALUE:		VALUE:			° C		VALUE:		
i. pH		Minimum 7.5	Maximum 8.0	Minimum	Maximum			Est.*	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses	a. Concentration	b. Mass	a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Bromide			X												
b. Chlorine, Tot. Residual			X	0.23	0.0188					Est.*	mg/l	kg/d	0.15		4
c. Color			X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform			X	VALUE:	548	VALUE:		VALUE:		Est.*	#/100 mL		VALUE:	548	1
e. Fluoride			X												
f. Nitrate/Nitrite			X												

*See Appendix A Note 2

**See Appendix A Note 3

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
		a. Believed Present	b. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
g. TON			X												
h. O&G			X	<5.0	<0.409					Est.*	mg/l	kg/d	<5.0		1
i. Phosphorus			X												
j. Radioactivity															
(1) Total Alpha			X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta			X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium			X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226			X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate			X												
l. Sulfide			X												
m. Sulfite			X												
n. Surfactants			X												
o. Aluminum			X												
p. Barium			X												
q. Boron			X												
r. Cobalt			X												
s. Iron			X												
t. Magnesium			X												
u. Molybdenum			X												
v. Manganese			X												
w. Tin			X												
x. Titanium			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS																
1M. Antimony			X													
2M. Arsenic			X													
3M. Beryllium			X													
4M. Cadmium			X													
5M. Chromium			X													
6M. Copper			X													
7M. Lead			X													
8M. Mercury			X													
9M. Nickel			X													
10M. Selenium			X													
11M. Silver			X													
12M. Thallium			X													
13M. Zinc			X													
14M. Cyanide			X													
15M. Phenols			X													
DIOXIN																
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS																
1V. Acrolein			X													
2V. Acrylonitrile			X													
3V. Benzene			X													
4V. Bis (Chloromethyl) Ether			X													
5V. Bromoform			X													
6V. Carbon Tetrachloride			X													
7V. Chlorobenzene			X													
8V. Chlorodibromomethane			X													
9V. Chloroethane			X													
10V. 2-Chloroethylvinyl Ether			X													
11V. Chloroform			X													
12V. Dichlorobromomethane			X													
13V. Dichlorodifluoromethane			X													
14V. 1,1-Dichloroethane			X													
15V. 1,2-Dichloroethane			X													
16V. 1,1-Dichloroethylene			X													
17V. 1,2-Dichloropropane			X													
18V. 1,3-Dichloropropylene			X													
19V. Ethylbenzene			X													
20V. Methyl Bromide			X													
21V. Methyl Chloride			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride			X												
23V. 1,1,2,2-Tetrachloroethane			X												
24V. Tetrachloroethylene			X												
25V. Toluene			X												
26V. 1,2-Trans Dichloroethylene			X												
27V. 1,1,1-trichloroethane			X												
28V. 1,1,2-trichloroethane			X												
29V. Trichloroethylene			X												
30V. Trichlorofluoromethane			X												
31V. Vinyl Chloride			X												
GC/MS FRACTION -- ACID COMPOUNDS															
1A. 2-Chlorophenol			X												
2A. 2,4-Dichlorophenol			X												
3A. 2,4-Dimethylphenol			X												
4A. 4,6-Dinitro-O-Cresol			X												
5A. 2,4-Dinitrophenol			X												
6A. 2-Nitrophenol			X												
7A. 4-Nitrophenol			X												
8A. P-Chloro-M-Cresol			X												
9A. Pentachlorophenol			X												
10A. Phenol			X												
11A. 2,4,6-Trichlorophenol			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene			X												
2B. Acenaphtylene			X												
3B. Anthracene			X												
4B. Benzidine			X												
5B. Benzo(a)Anthracene			X												
6B. Benzo(a)Pyrene			X												
7B. 3,4-Benzofluoranthene			X												
8B. Benzo(ghi)perylene			X												
9B. Benzo(k)fluoranthene			X												
10B. Bis(2-chloroethoxy)methane			X												
11B. Bis(2-chloroethyl)ether			X												
12B. Bis(2-chloroisopropyl)ether			X												
13B. Bis(2-ethylhexyl)phthalate			X												
14B. 4-bromophenyl Phenyl Ether			X												
15B. Butyl Benzyl Phthalate			X												
16B. 2-Chloronaphthalene			X												
17B. 4-chlorophenyl Phenyl Ether			X												
18B. Chrysene			X												
19B. Dibenzo(a,h)anthracene			X												
20B. 1,2-dichlorobenzene			X												
21B. 1,3-dichlorobenzene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1,4-dichlorobenzene			X													
23B. 3,3-dichlorobenzidine			X													
24B. diethylphthalate			X													
25B. Dimethylphthalate			X													
26B. di-N-Butylphthalate			X													
27B. 2,4-Dinitrotoluene			X													
28B. 2,6-dinitrotoluene			X													
29B. di-N-Octyl Phthalate			X													
30B. 1,2-Diphenylhydrazine			X													
31B. Fluoranthene			X													
32B. Fluorene			X													
33B. Hexachlorobenzene			X													
34B. Hexachlorobutadiene			X													
35B. Hexachlorocyclopentadiene			X													
36B. Hexachloroethane			X													
37B. Indeno(1,2,3-cd)Pyrene			X													
38B. Isophorone			X													
39B. Naphthalene			X													
40B. Nitrobenzene			X													
41B. N-Nitrosodimethylamine			X													
42B. N-Nitrosodi-N-Propylamine			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 005

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)															
17P. Heptachlor Epoxide			X												
18P. PCB-1242			X												
19P. PCB-1254			X												
20P. PCB-1221			X												
21P. PCB-1232			X												
22P. PCB-1248			X												
23P. PCB-1260			X												
24P. PCB-1016			X												
25P. Toxaphene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART A

1. POLLUTANT		2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	(2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	d. No. of Analyses	3. UNITS (specify if blank) a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	b. No. of Analyses
a. BOD		<5	<8.18					1	mg/l	kg/d	<5		1
b. COD		14	22.9					1	mg/l	kg/d	12		1
c. TOC		4.3	7.03					1	mg/l	kg/d	4.1		1
d. TSS		1	1.64					1	mg/l	kg/d	2		1
e. Ammonia *(as N)*		<0.2	<0.327					1	mg/l	kg/d	<0.2		1
f. Flow		VALUE:	0.058	VALUE:		VALUE:	0.036	22	MGD		VALUE:		
g. Temperature *(winter)*		VALUE:	26.0	VALUE:		VALUE:	17.6	13	° C		VALUE:	18.2	4
h. Temperature *(summer)*		VALUE:	30.7	VALUE:		VALUE:	24.1	9	° C		VALUE:		
i. pH		Minimum 6.88	Maximum 8.45	Minimum	Maximum			22	Standard Units				

PART B

1. POLLUTANT	2. Mark 'X' a. Believed Present	b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	(2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	d. No. of Analyses	4. UNITS (specify if blank) a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	d. No. of Analyses
a. Bromide		X												
b. Chlorine, Tot. Residual		X	0.16	0.26					4	mg/l	kg/d	0.15		4
c. Color		X	VALUE:		VALUE:		VALUE:					VALUE:		
d. Fecal Coliform		X	VALUE:	291	VALUE:		VALUE:		1	#/100 mL		VALUE:	548	1
e. Fluoride		X												
f. Nitrate/Nitrite		X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART B (CONTINUED)

1. POLLUTANT	2. Mark 'X' a. Believed Present	2. Mark 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	b. MAXIMUM 30 DAY VALUE (2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	c. LONG TERM AVRG. VALUE (2) Mass	d. No. of Analyses	4. UNITS (specify if blank) a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) Mass	5. INTAKE (optional) d. No. of Analyses
g. TON		X												
h. O&G		X	<5.0	<8.18					1	mg/l	kg/d	<5.0		1
i. Phosphorus		X												
j. Radioactivity														
(1) Total Alpha		X	VALUE:		VALUE:		VALUE:					VALUE:		
(2) Total Beta		X	VALUE:		VALUE:		VALUE:					VALUE:		
(3) Total Radium		X	VALUE:		VALUE:		VALUE:					VALUE:		
(4) Radium 226		X	VALUE:		VALUE:		VALUE:					VALUE:		
k. Sulfate		X												
l. Sulfide		X												
m. Sulfite		X												
n. Surfactants		X												
o. Aluminum		X												
p. Barium		X												
q. Boron		X												
r. Cobalt		X												
s. Iron		X												
t. Magnesium		X												
u. Molybdenum		X												
v. Manganese		X												
w. Tin		X												
x. Titanium		X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony			X												
2M. Arsenic			X												
3M. Beryllium			X												
4M. Cadmium			X												
5M. Chromium			X												
6M. Copper			X												
7M. Lead			X												
8M. Mercury			X												
9M. Nickel			X												
10M. Selenium			X												
11M. Silver			X												
12M. Thallium			X												
13M. Zinc			X												
14M. Cyanide			X												
15M. Phenols			X												
DIOXIN															
2,3,7,8-tetrachlorodibenzo-P-dioxin			X	Describe Results:											

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS																
1V. Acrolein			X													
2V. Acrylonitrile			X													
3V. Benzene			X													
4V. Bis (Chloromethyl) Ether			X													
5V. Bromoform			X													
6V. Carbon Tetrachloride			X													
7V. Chlorobenzene			X													
8V. Chlorodibromomethane			X													
9V. Chloroethane			X													
10V. 2-Chloroethylvinyl Ether			X													
11V. Chloroform			X													
12V. Dichlorobromomethane			X													
13V. Dichlorodifluoromethane			X													
14V. 1,1-Dichloroethane			X													
15V. 1,2-Dichloroethane			X													
16V. 1,1-Dichloroethylene			X													
17V. 1,2-Dichloropropane			X													
18V. 1,3-Dichloropropylene			X													
19V. Ethylbenzene			X													
20V. Methyl Bromide			X													
21V. Methyl Chloride			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent		a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
					(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)																
22V. Methylene Chloride			X													
23V. 1,1,2,2-Tetrachloroethane			X													
24V. Tetrachloroethylene			X													
25V. Toluene			X													
26V. 1,2-Trans Dichloroethylene			X													
27V. 1,1,1-trichloroethane			X													
28V. 1,1,2-trichloroethane			X													
29V. Trichloroethylene			X													
30V. Trichlorofluoromethane			X													
31V. Vinyl Chloride			X													
GC/MS FRACTION -- ACID COMPOUNDS																
1A. 2-Chlorophenol			X													
2A. 2,4-Dichlorophenol			X													
3A. 2,4-Dimethylphenol			X													
4A. 4,6-Dinitro-O-Cresol			X													
5A. 2,4-Dinitrophenol			X													
6A. 2-Nitrophenol			X													
7A. 4-Nitrophenol			X													
8A. P-Chloro-M-Cresol			X													
9A. Pentachlorophenol			X													
10A. Phenol			X													
11A. 2,4,6-Trichlorophenol			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene			X												
2B. Acenaphtylene			X												
3B. Anthracene			X												
4B. Benzidine			X												
5B. Benzo(a)Anthracene			X												
6B. Benzo(a)Pyrene			X												
7B. 3,4-Benzofluoranthene			X												
8B. Benzo(ghi)perylene			X												
9B. Benzo(k)fluoranthene			X												
10B. Bis(2-chloroethoxy)methane			X												
11B. Bis(2-chloroethyl)ether			X												
12B. Bis(2-chloroisopropyl)ether			X												
13B. Bis(2-ethylhexyl)phthalate			X												
14B. 4-bromophenyl Phenyl Ether			X												
15B. Butyl Benzyl Phthalate			X												
16B. 2-Chloronaphthalene			X												
17B. 4-chlorophenyl Phenyl Ether			X												
18B. Chrysene			X												
19B. Dibenzo(a,h)anthracene			X												
20B. 1,2-dichlorobenzene			X												
21B. 1,3-dichlorobenzene			X												

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'				3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
					a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent		(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1,4-dichlorobenzene			X													
23B. 3,3-dichlorobenzidine			X													
24B. diethylphthalate			X													
25B. Dimethylphthalate			X													
26B. di-N-Butylphthalate			X													
27B. 2,4-Dinitrotoluene			X													
28B. 2,6-dinitrotoluene			X													
29B. di-N-Octyl Phthalate			X													
30B. 1,2-Diphenylhydrazine			X													
31B. Fluoranthene			X													
32B. Fluorene			X													
33B. Hexachlorobenzene			X													
34B. Hexachlorobutadiene			X													
35B. Hexachlorocyclopentadiene			X													
36B. Hexachloroethane			X													
37B. Indeno(1,2,3-cd)Pyrene			X													
38B. Isophorone			X													
39B. Naphthalene			X													
40B. Nitrobenzene			X													
41B. N-Nitrosodimethylamine			X													
42B. N-Nitrosodi-N-Propylamine			X													

EPA I.D. NUMBER
VAD988204210

V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
				a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
	a. Testing Required	b. Believed Present	c. Believed Absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine			X												
44B. Phenanthrene			X												
45B. Pyrene			X												
46B. 1,2,4-trichlorobenzene			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin			X												
2P. a-BHC			X												
3P. b-BHC			X												
4P. g-BHC			X												
5P. d-BHC			X												
6P. Chlordane			X												
7P. 4,4-DDT			X												
8P. 4,4-DDE			X												
9P. 4,4-DDD			X												
10P. Dieldrin			X												
11P. a-Endosulfan			X												
12P. b-Endosulfan			X												
13P. Endosulfan sulfate			X												
14P. Endrin			X												
15P. Endrin Aldehyde			X												
16P. Heptachlor			X												

EPA I.D. NUMBER
VAD988204210

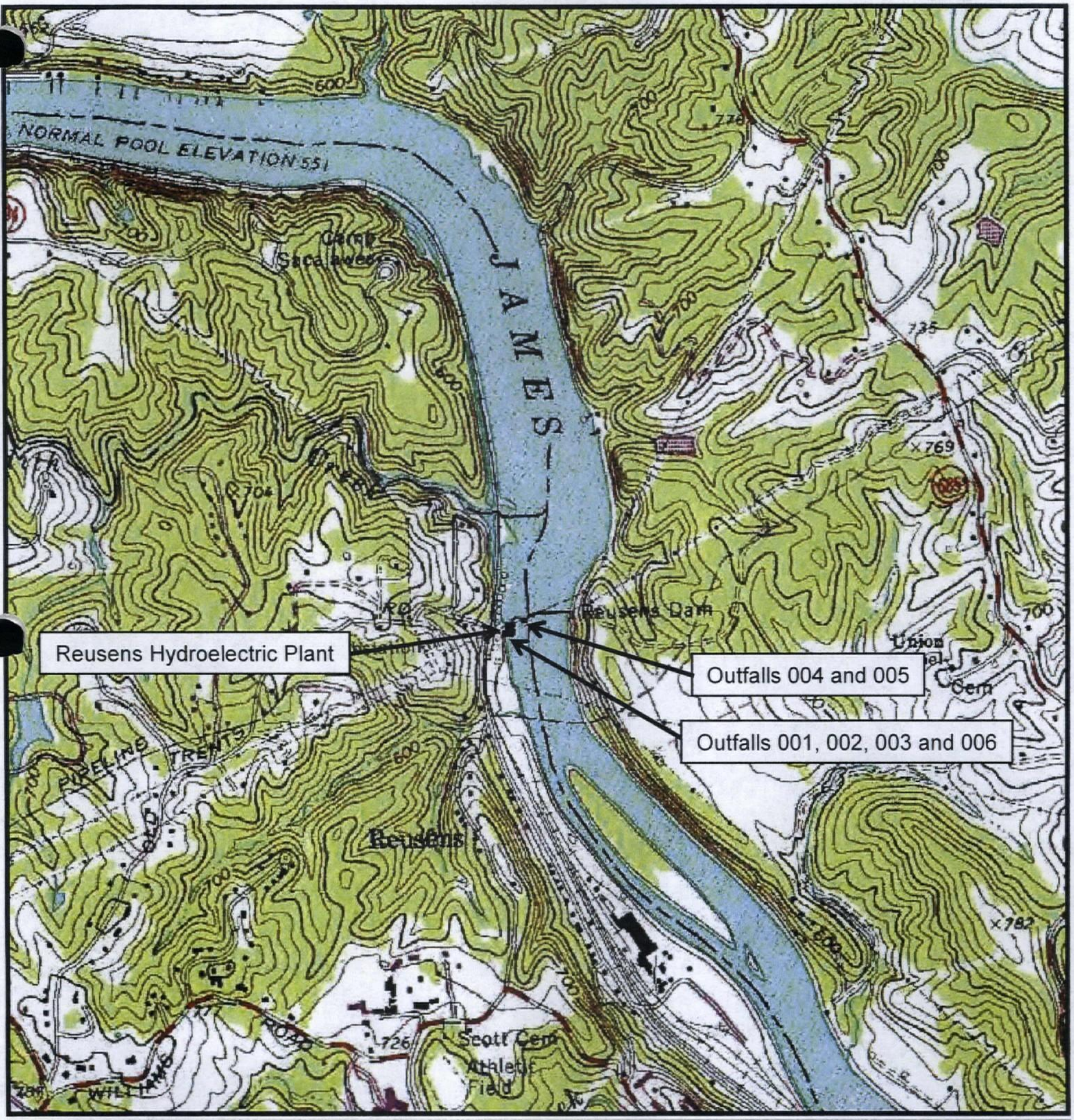
V. INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 006

PART C (CONTINUED)

1. POLLUTANT	2. Mark 'X'			3. EFFLUENT							4. UNITS (specify if blank)		5. INTAKE (optional)		
	a. Testing Required	b. Believed Present	c. Believed Absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVRG. VALUE		d. No. of Analyses			a. LONG TERM AVRG. VALUE		d. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass		a. Concentration	b. Mass	(1) Concentration	(2) Mass	
GC/MS FRACTION -- PESTICIDES (continued)															
17P. Heptachlor Epoxide			X												
18P. PCB-1242			X												
19P. PCB-1254			X												
20P. PCB-1221			X												
21P. PCB-1232			X												
22P. PCB-1248			X												
23P. PCB-1260			X												
24P. PCB-1016			X												
25P. Toxaphene			X												

Figure 1



N

Lynchburg, VA
Quadrangle USGS
Topographic Map

11.18.13

0 ½ 1mi

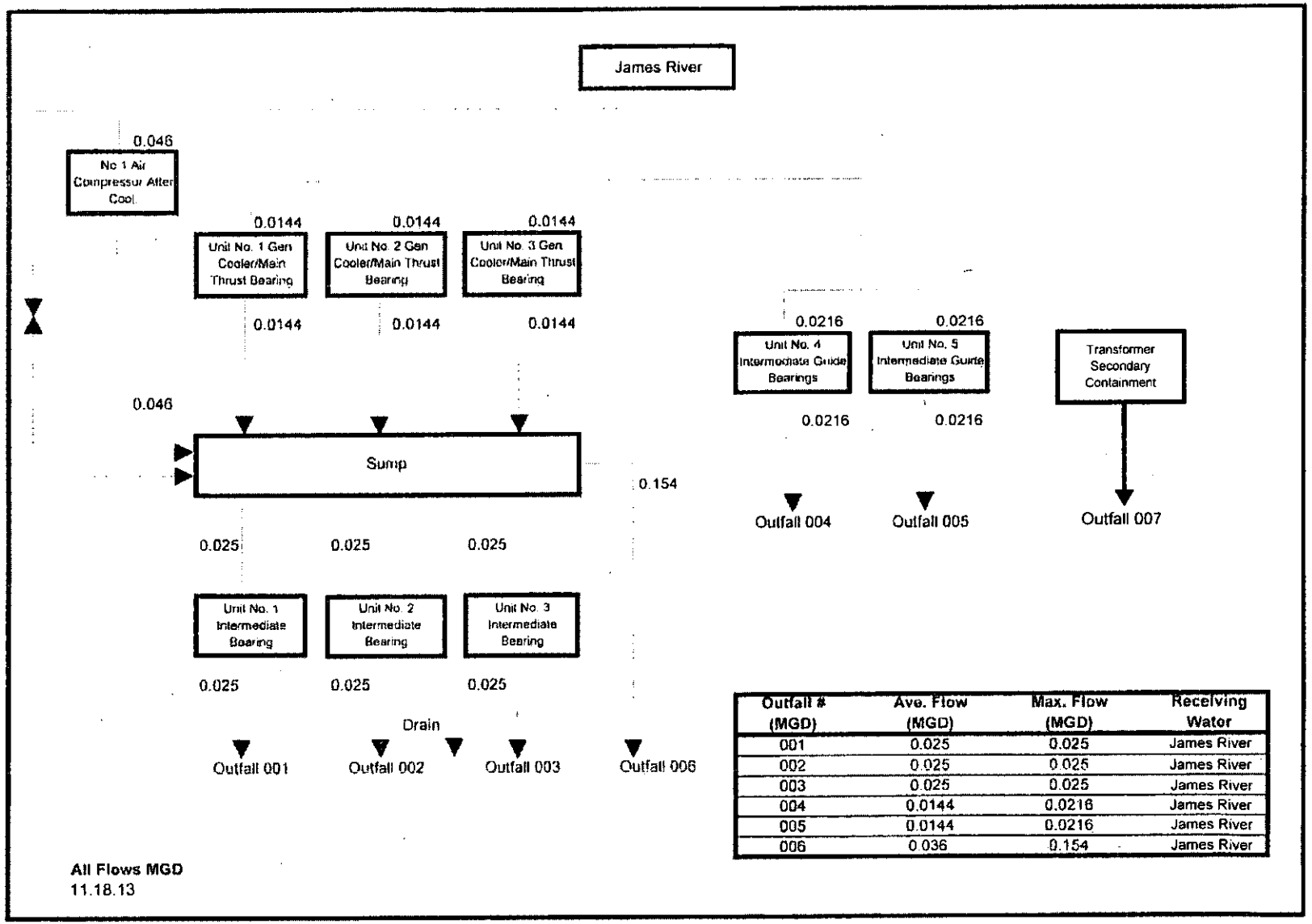
Appalachian Power Company
Reusens Hydroelectric Plant
VPDES Permit VA0087114
USGS Site Topographic Map

Plant Latitude 37° 27' 50"
Plant Longitude 79° 11' 08"

AEP

Figure 2

Reusens Hydroelectric Plant
VPDES Flow Diagram



Outfall #	Ave. Flow (MGD)	Max. Flow (MGD)	Receiving Water
001	0.025	0.025	James River
002	0.025	0.025	James River
003	0.025	0.025	James River
004	0.0144	0.0216	James River
005	0.0144	0.0216	James River
006	0.036	0.154	James River

Note: All flow values provided in Figure 2 are representative of the previous permit term. Plant operation during the current permit term was atypical and flow data do not characterize normal plant operation. Flow data measured over the current permit term are summarized in Appendix D. See Appendix A Note 2 for a further description of the given flow values.

Appendix A

Notes

Note 1: FACILITY OPERATION AND FORM 2C ALANYTICAL DATA

As indicated by the summary of the Discharge Monitoring Reports (DMRs) included in Appendix D, the Plant has had limited operation during the current permit cycle and has not operated since the January–March 2011 monitoring period. In their current state the generating units are inoperable. Under these circumstances there is no discharge from the facility other than stormwater and it was not possible to obtain effluent samples from the outfalls. For this reason, the analytical data included on Form 2C for Outfalls 001, 002, 003, 004, 005, and 006 are the data collected and analyzed by Water Chemistry, Inc. during the previous VPDES renewal cycle in 2008. Flow values included on Form 2C Items II-A and II-B are from the previous renewal application and reflect normal operation.

Note 2: FORM 2C ITEM II, A, B – DISCUSSION OF FLOW FIGURES FROM ITEM II-A (FLOW DIAGRAM) AND ITEM II-B (DESCRIPTION, TREATMENT, SOURCES, ETC.)

The flow figures designated as average flows in the water balance diagram (Figure 2), and included on Form 2C, Item II-B, Column 2b, represent the volume of water necessary to operate this plant under normal conditions at full capacity. The Company contends that figures based on any other method of calculation would be misleading and not in keeping with the intent of Form 2C. The generating scheme at this and other hydroelectric plants is determined by a number of factors, the most important of which are availability of water and the system availability of generating units. Therefore, a large number of variables directly impacting these two factors can affect the generating schedule, making it difficult to accurately predict the operating schedule, and thus the flow scheme for a hydroelectric unit based on historical records. Because of this, the figures included on the application represent the flows that would be expected on any given day when all units are operating at full capacity. The use of flow data determined by any other method would restrict the Company's ability to operate the plant at full capacity, thereby derating the capacity of the plant. These figures do not represent maximum design flows in that such factors as redundancy and extraordinary operations were not used in the calculation of listed flows, as these are atypical of normal operation.

Actual flow rates for Outfalls 001-005 are unavailable due to the inaccessibility of the discharge points. The flows ascribed to these outfalls on Form 2C were calculated using a combination of intake measurements and engineering estimates based on available system data as described below. Outfall 006 flows reported on Form 2C are from the previous renewal application. Flow values reported under the current permit term are summarized in Appendix D.

The reported flows for Outfalls 001, 002, and 003 (Units 1, 2, and 3 intermediate bearings, respectively) were calculated using best engineering practices based on the flows measured at the thrust bearings and the sump (Outfall 006). The flows

on these three units should be equal due to their like design. The discharge piping from the generator coolers discharges to the plant sump where it is gravity fed to the intermediate bearings of Units 1, 2, and 3. The supply lines to the generator cooler discharge and to the intermediate bearings all measure one inch in diameter, and there is no significant difference in head pressure between these locations. In addition, the generator cooler discharges are the major source of water feeding the sump which supplies cooling water to the intermediate bearings. All of these factors were taken into account in determining the flow figures for these outfalls.

Flow to the Units 4 and 5 intermediate bearings (Outfalls 004 and 005, respectively) was measured using a Material Control Inc. Ultrasonic Flowmeter Model #CW-603 for the original VPDES permit application submittal in 1993. Since there is a single supply for the water cooling each unit's bearing, and a single point where water may be discharged, it can be concluded that the quantity of water discharged from the bearings to the tailrace is equivalent to the intake flow.

The average flow reported for Outfall 006 (sump overflow) is based on the average of the quarterly flow measurements taken over the previous permit term, as described in Note 1, using a 5-gallon bucket and a stopwatch. Data collected over the current permit term are summarized in Appendix D. The maximum flow for this outfall was estimated by determining the maximum flow for the plant service water inlet header and assuming that this entire flow was discharged to the sump through the generator coolers/thrust bearing coolers and the fill valve. Other sources that could supply water to the sump, such as the emergency eyewash and shower on the 'A' building main floor, operate on such an infrequent basis as to render their contribution to this discharge negligible. The flow for the #1 air compressor aftercooler in the flow diagram and flow description was determined for the original VPDES permit application in 1993 using a combination of actual flow measurements in conjunction with a time meter to establish the actual time in operation over a 24-hour period.

Note 3: STORMWATER

In addition to the outfalls listed in Form 2C Item I, there are at this facility a number of pipes, culverts, etc. which carry uncontaminated stormwater collected from roof and deck drains, yard areas, employee parking lots, and other areas not directly associated with the production functions of the plant. The Company submits that these drains do not fit the definition of "discharges associated with industrial activities", therefore, should not be included in this permit. For this reason, these drains were not sampled during permit application preparation, and have not been specifically identified in this application.

Note 4: LEAKAGE AND SCREEN WASH

Each of the three intake pumps at Reusens Plant is fitted with filter screens to remove debris from the intake water prior to use. Periodically (dependent upon river conditions), these screens require cleaning to remove accumulated debris. When necessary, the screens are cleaned in the basement area of the plant using river water from one of the intake pumps. The accumulated mud and debris removed from the screens is collected and properly disposed, while the water is pumped via a sump pump back to the James River. In addition, this sump pump is used to remove any leakage in the basement area resulting from high river conditions. Any water in the basement would not come in contact with any plant process or equipment, other than the intake screens. The Company does not believe that this water should be regulated in the permit, as it is not a discharge or addition of pollutants to navigable waters, as contemplated by the Clean Water Act, and does not constitute an outfall.

Note 5: LOWER BEARINGS

Because of the length of the shaft connecting the generator to the turbine, each of the units at Reusens Plant requires two guide bearings to prevent excessive movement of the shaft. The intermediate bearings are located about ten feet below the level of the forebay and require cooling water that is delivered through a discrete cooling water system. The lower guide bearings positioned just above the turbine do not require a separate system for cooling. Instead, their position in the water (approximately 18 feet below the forebay) allows these bearings to depend on the pressure differential between the tailrace and forebay to force the surrounding water through the small (~0.02 inch) opening between the bearing and the shaft. This water lubricates the bearing, reducing friction and preventing bearing deterioration. Contact between the water and turbine generators is limited to the stainless steel shaft and the bearing itself, composed of inert plastic. The Company does not believe that this water should be regulated in the permit, as it does not constitute a discharge or addition of pollutants, as contemplated in the Clean Water Act, and is not an outfall.

Note 6: UNITS 4 AND 5 GOVERNOR AND DRAIN VALVE SHAFT LEAKAGE

All five units at Reusens Hydro are considered wet turbines. This means that the turbines, associated shafts, and mechanics are located in a wet well completely submerged underwater. The forebay water level is higher than the turbine systems. The water pressure associated with the higher forebay water level results in water leakage through packing glands associated with the turbines' governor and drain valve shafts. The governor shafts operate the wicket gates that regulate flow of water to the turbines, while the drain valve shafts open and close the drain valves located at the bottom of the turbines. These drain valves are used to drain the last six to eight feet of water from the systems during outages.

In the past, for Units 4 and 5, this leakage flowed across a concrete floor exposed to the outside, and back to the river. In the winter this water would sometimes freeze, while in the summer it occasionally caused excessive algae growth. Both situations created safety hazards for individuals traversing this concrete floor. To eliminate this safety hazard, a coupling was placed at the locations where the leakage came through the concrete floor to collect the water. The water is transferred from these couplings to the river via PVC pipes.

No monitoring data or Form 2C has been completed for these discharges. The Company submits that this leakage should not be regulated under the VPDES program. The leakage simply involves the passing through of water from the upstream side of the dam or powerhouse to the downstream area. The leakage water, like generating water, does not come into contact with any plant processes that may result in the addition of pollutants from outside sources, and thus does not conform to the definition of pollution under the Clean Water Act.

Note 7: ESTIMATION OF DATA IN PART V-A, B, AND C FOR OUTFALLS 001, 002, 003, 004, AND 005

Outfalls 001 through 005 discharge underwater directly to the tailrace. As a result, these discharge points are inaccessible for obtaining effluent samples. There is no reason to believe that any additional contamination to intake water occurs when passing through the intermediate bearings (see Appendix B for further description). Consequently, the estimates provided for chemical concentrations at Outfalls 001, 002, and 003 in Part V-A, B, and C were taken directly from concentrations measured at the sump (Outfall 006) during the previous renewal sampling and discharge monitoring, from which water is supplied to the intermediate bearings. The data provided for Outfalls 004 and 005 were estimated directly from concentrations measured in samples of the intake water to these units.

Note 8: REQUEST FOR REDUCED MONITORING FREQUENCY

Under the present VPDES permit, the Company monitors flow, pH, and temperature on a quarterly basis on Outfall 006. Data collected to date during the term of this permit are provided in Appendix D.

The Company submits that these data demonstrate that this discharge contributes negligible warming to the James River downstream of the facility, and has no reasonable potential to cause an exceedance of the James River temperature standard of 32 °C. Of the available monitoring data from both the current and previous permit terms, the highest measured temperature at Outfall 006 was 30.7 °C. For the James River 7Q10 flow at the plant of 319 MGD, the Outfall 006 maximum flow of 0.154 MGD would have to undergo a temperature rise of about 239 C° to produce a change of 0.1 C° in the ambient river temperature. Based on

this discussion, the Company requests that the monitoring frequency for Outfall 006 be reduced to once per year in the next permit, with measurements to be made during the months of July or August, when river temperatures are most likely to approach the 32 °C standard.

Similarly, the pH monitoring data for Outfall 006 have demonstrated consistent compliance with the 6.0 – 9.0 acceptable range. Of the available monitoring data from both the current and previous permit terms, the actual range of pH measurements from Outfall 006 is 6.88 – 8.45.

Appendix B

Outfall Descriptions

I. LIKE OUTFALLS

The Reusens Hydroelectric Plant is made up of a dam and two buildings containing five 3,125-kilowatt units. All five units are very similar in design and the materials of construction. All are "run-of-river" units, with the generation load dependent upon the quantity of available water, and the mechanical availability of the units themselves. Typically, no one unit is run either more frequently or more consistently than the other four. The exception is prolonged outages.

Five of the six outfalls are comprised of discharges from the intermediate guide bearings. Regardless of the unit, the intermediate bearings' function is to maintain shaft alignment. The discharges from these five units can be divided into two groups according to the influent source. Unit 1, 2, and 3 intermediate bearings are gravity supplied with cooling water from the sump. The water in the sump includes cooling water from other sources, so that it may be somewhat different from water supplied directly from the intake pumps. However, after the water leaves the sump, it enters a closed cooling water system that supplies the Unit 1, 2, and 3 intermediate guide bearings. As a result, water quality should be consistent among the three units. Any change in intake quality should affect each of the units in the same manner.

Water delivered to the intermediate bearings on Units 4 and 5 is supplied directly by the plant's intake pump through a closed system that allows no contact between the cooling water and the generating equipment, other than the stainless steel shaft and the plastic bearings. There is little likelihood of contamination, and the water quality of these two discharges should be identical.

For these reasons, the Company requests that each group of cooling water systems having an identical intake water source be considered like discharges for the purposes of this permit. These would be categorized as follows:

- Group 1
  - Intermediate Bearings – Unit 1 Outfall 001
  - Intermediate Bearings – Unit 2 Outfall 002
  - Intermediate Bearings – Unit 3 Outfall 003

- Group 2
  - Intermediate Bearings – Unit 4 Outfall 004
  - Intermediate Bearings – Unit 5 Outfall 005

II. FURTHER DESCRIPTION OF OUTFALLS

Outfalls 001, 002, 003, 004, & 005: Intermediate Guide Bearings

The turbine shaft, connecting the turbine to the generator, is held in place by two guide bearings, or alignment bearings: the intermediate guide bearings and the lower guide bearings. The clearance between the bearings and the shaft is 0.020 inch, and requires water for lubrication to reduce the detrimental effects of friction. The lower guide bearings are positioned so that they can use water from the surrounding environment to provide this lubrication. The water is pushed into the opening between the shaft and the bearing by the pressure differential created by the difference between water level in the forebay and the tailrace.

The intermediate bearings are located on the shaft at a level approximately ten feet below the forebay. The difference in head, by itself, is not sufficient to force the water through the gap between the shaft and these bearings. Consequently, water must be piped into this area to provide the necessary lubrication.

Outfalls 001, 002, 003, 004, and 005 result from the discharge of this water into the James River as it exits the intermediate bearings. As discussed in Appendix A Note 7, the discharge points are underwater and are inaccessible. Consequently, it was not possible to obtain samples from any of the five guide bearing discharges. The cooling water in question only contacts the piping carrying it to the intermediate bearings, the shaft of the turbine, and the shaft alignment bearing; thus, there is no reason to believe that analyses of these discharges would yield results different from those presented in Part V-A, B, and C for the sump discharge that supplies water to this bearing on Units 1, 2, and 3, or from the intake that directly feeds Units 4 and 5.

Outfall 006: Sump

The sump at Reusens Plant (capacity ~30,000 gallons) is designed to accept discharges from the Units 1, 2, and 3 generator coolers and thrust bearing coolers. The effluent from the #1 air compressor aftercooler, as well as an emergency shower and eyewash station on the main floor of the "A" building, also discharge into the sump. In turn, this sump provides water to the intermediate bearings on Units 1, 2, and 3. The water contained in this sump may be used to operate equipment for a short time period in the event of an intake pump failure. All of the water exiting the sump is gravity fed.

The overflow from the sump (Outfall 006) is discharged into the tailrace by gravity through a pipe located on the east side of Building "A". In addition to the overflow pipe, a drain is also located at the bottom of the sump should it be required to completely empty the sump. This drainpipe is kept closed under normal operating conditions, and would only be used under extraordinary circumstances.

Appendix C

Approved 8-Hour Composite Sampling during Previous Renewal (2008)

Approved 8-Hour Composite Sampling during Previous Renewal (2008)

As described in Appendix A Note 1, the analytical data provided on Form 2C Part V for Outfalls 001, 002, 003, 004, 005 and 006 were collected during the previous VPDES permit renewal (2008). Per Item V.B (Sampling) of Form 2C Instructions (Page 2C-1), the Company requested a waiver to the 24-hour composite sampling requirement for BOD_5, Total Suspended Solids, Chemical Oxygen Demand, Total Organic Carbon and Ammonia during the previous permit renewal cycle. Instead of 24-hour composite sampling and subsequent analysis for the aforementioned parameters, 8-hour composite sampling was conducted for the 2008 VPDES renewal sampling.

Appendix D

Summary of Discharge Monitoring Reports

Summary of Discharge Monitoring Reports at Outfall 006 from July 2009 through September 2013

Summary of DMR Data Collected at Outfall 006

Monitoring Period	Flow (MGD)	pH (SU)	Temperature (C°)
07/01/2009 - 09/30/2009	0.034	7.7	27
10/01/2009 - 12/31/2009	0.029	8.0	21
01/01/2010 - 03/31/2010	0.004	7.4	8
04/01/2010 - 06/30/2010	0.029	7.6	20
07/01/2010 - 09/30/2010	NR	NR	NR
10/01/2010 - 12/31/2010	0.001	8.2	10
01/01/2011 - 03/31/2011	0.003	8.3	8
04/01/2011 - 06/30/2011	NR	NR	NR
07/01/2011 - 09/30/2011	NR	NR	NR
10/01/2011 - 12/31/2011	NR	NR	NR
01/01/2012 - 03/31/2012	NR	NR	NR
04/01/2012 - 06/30/2012	NR	NR	NR
07/01/2012 - 09/30/2012	NR	NR	NR
10/01/2012 - 12/31/2012	NR	NR	NR
01/01/2013 - 03/31/2013	NR	NR	NR
04/01/2013 - 06/30/2013	NR	NR	NR
07/01/2013 - 09/30/2013	NR	NR	NR

*NR signifies no discharge from the outfall due to unit outages.

VPDES Permit Application Addendum

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Appalachian Power Company
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** Yes [X] No [ ] City of Lynchburg

3. **Provide the tax map parcel number for the land where the discharge is located.** 13701001

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** 0 acres

5. **What is the design average effluent flow of this facility?** 0.140* MGD
For industrial facilities, provide the max. 30-day average production level, include units:
*Sum of measured and calculated average flows excluding stormwater over previous VPDES permit term.

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Yes [ ] No [X]
If "Yes", please identify the other flow tiers (in MGD) or production levels:

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater:**
Hydroelectric power generation non-contact cooling water

0 % of flow from domestic connections/sources
Number of private residences to be served by the treatment works:

100 % of flow from non-domestic connections/sources

7. **Mode of discharge:** [X] Continuous [ ] Intermittent [ ] Seasonal
Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**
X Permanent stream, never dry
___ Intermittent stream, usually flowing, sometimes dry
___ Ephemeral stream, wet-weather flow, often dry
___ Effluent-dependent stream, usually or always dry without effluent flow
___ Lake or pond at or below the discharge point
___ Other:

9. **Approval Date(s):**
O & M Manual 2006 **Sludge/Solids Management Plan** N/A

Have there been any changes in your operations or procedures since the above approval dates? Yes [ ] No [X] *
*Note: The hydroelectric generating units have not operated since March 2011.